

Release notes for ENDF/B Development n-088\_Ra\_225  
evaluation

**ENDF**  
**B-VII**.dev

April 26, 2017

- checkr Warnings:

1. A previous error halted parsing of the current section  
*MAT=8831, MF= 1, MT=451 (1): Parsing stopped*

```
ERROR(S) FOUND IN MAT=8831, MF= 1, MT=451
SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      93 TO      124
```

- checkr Errors:

1. A variable is outside the allowed ENDF range  
*MAT=8831, MF= 1, MT=451 (0): Variable range*

```
ERROR(S) FOUND IN MAT=8831, MF= 1, MT=451
MOD =      1 OUT OF RANGE      0 -      0      RECORD NUMBER      93
```

2. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 2, MT=151 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=8831, MF= 2, MT=151
SECTION 2/151 NOT IN DIRECTORY      RECORD NUMBER      126
```

3. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 1 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 1
SECTION 3/ 1 NOT IN DIRECTORY      RECORD NUMBER      132
```

4. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 2 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 2
SECTION 3/ 2 NOT IN DIRECTORY      RECORD NUMBER      169
```

5. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 4 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 4
SECTION 3/ 4 NOT IN DIRECTORY      RECORD NUMBER      187
```

6. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 16 (0): Directory (b)*

```
ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 16
SECTION 3/ 16 NOT IN DIRECTORY      RECORD NUMBER      202
```

7. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 17 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 17  
SECTION 3/ 17 NOT IN DIRECTORY RECORD NUMBER 211

8. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 37 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 37  
SECTION 3/ 37 NOT IN DIRECTORY RECORD NUMBER 218

9. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 51 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 51  
SECTION 3/ 51 NOT IN DIRECTORY RECORD NUMBER 223

10. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 52 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 52  
SECTION 3/ 52 NOT IN DIRECTORY RECORD NUMBER 238

11. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 53 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 53  
SECTION 3/ 53 NOT IN DIRECTORY RECORD NUMBER 253

12. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 54 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 54  
SECTION 3/ 54 NOT IN DIRECTORY RECORD NUMBER 267

13. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 55 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 55  
SECTION 3/ 55 NOT IN DIRECTORY RECORD NUMBER 280

14. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 56 (0): Directory (b)*

ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 56  
SECTION 3/ 56 NOT IN DIRECTORY RECORD NUMBER 293

15. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT= 91 (0): Directory (b)*

- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 3, MT= 91 | RECORD NUMBER | 306 |
| SECTION 3/ 91 NOT IN DIRECTORY            |               |     |
16. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 3, MT=102 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 3, MT=102 | RECORD NUMBER | 318 |
| SECTION 3/102 NOT IN DIRECTORY            |               |     |
17. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 2 (0): Directory (b)*
- |  |               |     |
|--|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 2 | RECORD NUMBER | 337 |
| SECTION 4/ 2 NOT IN DIRECTORY            |               |     |
18. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 16 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 16 | RECORD NUMBER | 474 |
| SECTION 4/ 16 NOT IN DIRECTORY            |               |     |
19. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 17 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 17 | RECORD NUMBER | 485 |
| SECTION 4/ 17 NOT IN DIRECTORY            |               |     |
20. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 37 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 37 | RECORD NUMBER | 496 |
| SECTION 4/ 37 NOT IN DIRECTORY            |               |     |
21. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 51 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 51 | RECORD NUMBER | 507 |
| SECTION 4/ 51 NOT IN DIRECTORY            |               |     |
22. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 52 (0): Directory (b)*
- |   |               |     |
|---|---------------|-----|
| ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 52 | RECORD NUMBER | 532 |
| SECTION 4/ 52 NOT IN DIRECTORY            |               |     |
23. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 53 (0): Directory (b)*

- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 53 |               |     |
|  | SECTION 4/ 53 NOT IN DIRECTORY            | RECORD NUMBER | 557 |
24. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 54 (0): Directory (b)*
- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 54 |               |     |
|  | SECTION 4/ 54 NOT IN DIRECTORY            | RECORD NUMBER | 582 |
25. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 55 (0): Directory (b)*
- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 55 |               |     |
|  | SECTION 4/ 55 NOT IN DIRECTORY            | RECORD NUMBER | 607 |
26. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 56 (0): Directory (b)*
- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 56 |               |     |
|  | SECTION 4/ 56 NOT IN DIRECTORY            | RECORD NUMBER | 632 |
27. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 4, MT= 91 (0): Directory (b)*
- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 4, MT= 91 |               |     |
|  | SECTION 4/ 91 NOT IN DIRECTORY            | RECORD NUMBER | 657 |
28. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 5, MT= 16 (0): Directory (b)*
- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 5, MT= 16 |               |     |
|  | SECTION 5/ 16 NOT IN DIRECTORY            | RECORD NUMBER | 683 |
29. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 5, MT= 17 (0): Directory (b)*
- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 5, MT= 17 |               |     |
|  | SECTION 5/ 17 NOT IN DIRECTORY            | RECORD NUMBER | 701 |
30. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 5, MT= 37 (0): Directory (b)*
- |  |   |               |     |
|--|---|---------------|-----|
|  | ERROR(S) FOUND IN MAT=8831, MF= 5, MT= 37 |               |     |
|  | SECTION 5/ 37 NOT IN DIRECTORY            | RECORD NUMBER | 724 |
31. Missing a section in directory so your directory is messed up. This error will break everything else  
*MAT=8831, MF= 5, MT= 91 (0): Directory (b)*

• fudge-4.0 Warnings:

1. Cross section does not match sum of linked reaction cross sections  
*crossSectionSum label 0: total (Error # 0): CS Sum.*

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.98%

2. Cross section does not match sum of linked reaction cross sections  
*crossSectionSum label 1: (z,n) (Error # 0): CS Sum.*

WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.12%

• fudge-4.0 Errors:

1. Found a negative probability  
*reaction label 0: n + Ra225 / Product: n / Distribution: / angularTwoBody - XYs2d:  
(Error # 0): Negative prob.*

WARNING: Negative probabilities encountered. Incident energy: 2.e7 eV, worst case: -0.00507912400206

2. Calculated and tabulated Q values disagree.  
*reaction label 8: n[multiplicity:'2'] + Ra224 (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -4482367.413574219 eV vs -4897390. eV!

3. Calculated and tabulated Q values disagree.  
*reaction label 9: n[multiplicity:'3'] + Ra223 (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -10961156.04559326 eV vs -1.13909e7 eV!

4. Weights in a weighted sum don't sum up to one  
*reaction label 9: n[multiplicity:'3'] + Ra223 / Product: n / Distribution: / uncorrelated  
- energy - weightedFunctionals: (Error # 0): Bad weight sum*

WARNING: Weights don't sum to 1.0!

5. Calculated and tabulated Q values disagree.  
*reaction label 10: n[multiplicity:'4'] + Ra222 (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: -16119094.50244141 eV vs -1.65398e7 eV!

6. Calculated and tabulated Q values disagree.  
*reaction label 11: Ra226 + gamma (Error # 0): Q mismatch*

WARNING: Calculated and tabulated Q-values disagree: 6818359.526123047 eV vs 6388690. eV!

• njoy2012 Warnings:

1. Evaluation has no resonance parameters given  
*unresr...calculation of unresolved resonance cross sections (0): No RR*

---message from unresr---mat 8831 has no resonance parameters  
copy as is to nout

2. Evaluation has no resonance parameters given  
*purrr...probabalistic unresolved calculation (0): No RR*

---message from purr---mat 8831 has no resonance parameters  
copy as is to nout

3. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*grouprr...compute self-shielded group-averaged cross-sections (0): GROUPR/conver (0)*

---message from conver---cannot do complete particle production for mt= 16  
only mf4/mf5 provided

4. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*grouprr...compute self-shielded group-averaged cross-sections (1): GROUPR/conver (0)*

---message from conver---cannot do complete particle production for mt= 17  
only mf4/mf5 provided

5. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*grouprr...compute self-shielded group-averaged cross-sections (2): GROUPR/conver (0)*

---message from conver---cannot do complete particle production for mt= 37  
only mf4/mf5 provided

6. With the advent of the ENDF-6 format, it is possible to make evaluations that fully describe all the products of a nuclear reaction. Some carry-over evaluations from earlier ENDF/B versions also have this capability, but many do not. This message is intended to goad evaluators to improve things!  
*grouprr...compute self-shielded group-averaged cross-sections (3): GROUPR/conver (0)*

---message from conver---cannot do complete particle production for mt= 91  
only mf4/mf5 provided

- njoy2012 Errors:

1. An angular distribution is negative  
*acer...monte carlo neutron and photon data (0): Neg. P(Ejμ) (b)*

---message from ptleg2---negative probs found  
17 for mt= 2 e= 2.000E+07

- acelst Warnings:

1. generic warning message  
*0: Warning*

ACELST WARNING - More than one range for MF/MT	6	16
ACELST WARNING - More than one range for MF/MT	6	17
2. generic warning message		
1: <i>Warning</i>		
ACELST WARNING - More than one range for MF/MT	6	37
STOP ACELST Completed		